

## REMARKS

### I. Summary of the Examiner's Action

#### A. Claim Rejections

As set forth in paragraph 4 on page 3 of the January 9 Office Action, claims 1 – 10, 14, 16 – 25, 29 and 31 – 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over United States Patent Application Publication No. US 2004/0219891 A1 to Hadjichristos (hereinafter “Hadjichristos” or “the Hadjichristos application”) in view of United States Patent Application Publication No. US 2002/0105378 A1 to Tapio (hereinafter “Tapio” or “the Tapio application”).

As set forth in paragraph 5 of the January 9 Office Action, claims 11 - 13 and 26 - 28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Hadjichristos application in view of Tapio and further in view of United States Patent Application Publication No. US 2002/0082792 A1 to Bourde *et al.* (hereinafter “Bourde” or “the Bourde application”).

These rejections are respectfully disagreed with, and are traversed below.

#### B. Claim Objections and Allowable Subject Matter

As set forth at paragraph 6 of the January 9 Office Action, the Examiner objected to claims 15 and 30 as being dependent upon a rejected base claim, but indicated that the

claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

## II. Applicant's Response – Claim Rejections

### A. Rejection of Claims 1 – 10, 14, 16 – 25, 29 and 31 -35 under 35 U.S.C. § 103(a)

Claim 1 recites the following subject matter (emphasis added):

1. A radio frequency (RF) transceiver comprising a transmitter (TX) and a receiver (RX) for coupling to an antenna, the transmitter configured to transmit a signal through the antenna and the receiver RX configured to receive a signal through the antenna, said TX having a polar architecture that comprises at least one programmable delay element in at least one of an amplitude modulation (AM) path and a phase modulation (PM) path, further comprising an RF connection between an output of said TX and an input of said RX, and a controller that is responsive to an output of said RX when receiving a signal through said RF connection for determining at least one delay value for use in programming said at least one programmable delay element.

Applicants respectfully submit that it is not seen where the art of record either describes or suggests the emphasized subject matter of claim 1.

In particular, an aspect of Applicant's invention is that receiver circuitry is used to determine a delay value, thereby eliminating the expense associated with additional circuitry, as described at page 3 (emphasis added):

“The inventors have realized that it would be most advantageous to measure the actual result of the delay mismatch when using a transmitter that represents symbols using both phase and amplitude information. The inventors have further realized that it would not be advantageous to provide additional circuitry in the mobile station to perform the delay result measurement function, e.g., circuitry required to down convert the TX RF signal to baseband (BB) so that delay matching can be accomplished.

In accordance with an aspect of this invention, the transmitted signal is looped back to the mobile station receiver, and the mobile station receiver is used to detect the result of the delay mismatch in the mobile station transmitter so that the correct delay compensation value can be selected and applied to optimize both the ACLR and the EVM performance of the mobile station.

The ACLR can be measured using the mobile station receiver, and the delay adjusted to minimize the ACLR. In another embodiment the delay can be adjusted to maximize the own-channel power (OCP), thereby minimizing the signal power that leaks into other (adjacent) channels. It is also within the scope of this invention to measure the BER, and to adjust the delay to minimize the BER. The invention can be practiced to also minimize a combination of the ACLR and the BER, or the OCP and the BER.”

The dual-purpose aspect of the receiver in Applicants invention is reflected in claim 1, which recites a “radio frequency (RF) transceiver comprising a transmitter (TX) and a receiver (RX) for coupling to an antenna, the transmitter configured to transmit a signal through the antenna and the receiver RX configured to receive a signal through the

antenna” in addition to an “RF connection between an output of said TX and an input of said RX”.

Examiner rightly admits that Hadjichristos “fails to clearly teach the transmitted signal can be fed back through the receiver path.” However, Tapio is not seen to remedy this deficiency of Hadjichristos. In particular, the receiver recited in claim 1 is a dual-purpose receiver that is capable of receiving a signal from an antenna and a signal looped back from the transmitter. The Analog RF RX 8 of FIG. 3 is seen to be coupled only to an output of Analog RF TX 5 and not to an antenna as well. Notably absent from FIG. 3 and the accompanying disclosure of Tapio is a description or suggestion that Analog RF RX 8 is a dual-purpose receiver as required by claim 1. For example, the necessary switching for the Analog RF RX 8 to receive a signal from the antenna depicted in FIG. 3 (to switch out the output from RF TX 5 when the apparatus of Tapio would ostensibly be receiving a signal from an external source through the antenna) is neither described nor suggested. As a result, it is apparent that the receiver is *not* intended to receive a signal through the antenna. As further proof, demodulation circuits necessary to demodulate signals received through the antenna are also not described.

In view of the foregoing, Applicants respectfully request that the rejection of claim 1 be withdrawn. Applicants also respectfully submit that independent claim 16 is allowable both for reasons similar to claim 1 and for reasons attributable to its

independently-recited features. Independent claim 31 is allowable for the foregoing reasons. Applicants further submit that dependent claims 2 – 10, 14, 17 – 25, 29 and 34 – 35 are similarly allowable both as depending from allowable base claims and for reasons attributable to their independently-recited features.

B. Rejection of Claims 11 – 13 and 26 – 28 under 35 U.S.C. § 103(a)

Applicants submit that none of the art of record remedies the deficiencies identified above with respect to Hadjichristos and Tapio. Accordingly, Applicants respectfully request that the rejection of claims 11 – 13 and 26 – 28 be withdrawn as these claims depend from allowable base claims.

IV. Conclusion

Applicants submit that in light of the foregoing remarks the application is now in condition for allowance. Applicants therefore respectfully request that the outstanding rejections be withdrawn and that the case be passed to issuance.

Respectfully submitted,

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Date

  
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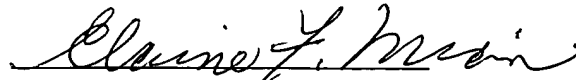
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